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# MINIMIZATION OF PURGE NOx RELEASE FROM NOx TRAPS BY OPTIMIZING THE OXYGEN STORAGE CAPACITY

## Abstract

The present invention provides a catalyst for use in a $NO_x$ trap that has reduced $NO_x$ release during rich purges, increased $NO_x$ conversion efficiency under stoichiometric conditions, and improved sulfur tolerance. The catalyst of this embodiment includes a precious metal, an oxygen storage component in contact with the precious metal, and a $NO_x$ storage material. The oxygen storage component in contact with the precious metal is present in an amount that provides sufficient oxygen storage capacity to reduce the $NO_x$ release from the $NO_x$ trap during rich purges to less than 20% of the $NO_x$ that is stored in the $NO_x$ trap across the operating temperature window of the $NO_x$ trap, increase the $NO_x$ conversion efficiency under stoichiometric conditions to a value greater than 70%, and increase the sulfur tolerance of the $NO_x$ trap.